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famous St. Gotthard tunnels into Switzerland. The writer not very long since heard Mr. Hamilton Mabie describing his first sight of the Jungfrau at night and by the moonlight, and very comforting was the thought that for not very much longer should she have to be content with other people's descriptions, even though the depictees be as gifted penpainters as the gentleman in question, of this most sublime sight; our first impressions are our very own, and who would exchange those we shall receive on a first tour abroad for any consideration? Interlachen, Lucerne, Zurich, Basle, then Paris, a city to be seen, not described; after Paris, possibly a glimpse at Amiens Cathedral en route for Boulogne-sur-Mer, where we shall set sail for home, our horizon broadened, our egotism subdued, our ambition stimulated, and with a firm resolve to go back as soon as possible for more stimulus, more chastening.

A SUBSTITUTE FOR RUBBER GLOVES *

A METHOD OF DISPENSING WITH RUBBER GLOVES AND THE ADHESIVE RUBBER DAM—A PRELIMINARY NOTE

By JOHN B. MURPHY, A.M., M.D.

Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Mercy Hospital, Cook County Hospital, Chicago

THE disadvantages, inconveniences, and dangers of rubber gloves and dam, as well as their theoretical advantages, are well understood and will not be commented on here. For several months past I have been endeavoring to find a material that might be applied to the hands of the surgeon and skin of the patient which would practically seal these surfaces with an insoluble, impervious, and practically imperceptible coating—a coating that would not allow the secretions of the skin to escape and will not admit secretions, blood, or pus into the pores or crevices of the skin, at the same time one that will not interfere with the sense of touch or impair the pliability of the skin. I have ascertained that a four, six, or eight per cent. solution of gutta-percha in benzine fulfils all of these requirements, while a similar solution in acetone also meets most of the requirements. In my clinical experience in the last four months I have found that the four per cent. solution of rubber in benzine is the most serviceable for the hands, as it wears better on the tips of the fingers under handling instruments, sponges,

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and tissues than the acetone solution. For the abdomen the acetone solution has the advantage, as it dries in from three to four seconds after its application, while the benzine solution takes from two to three and a half minutes to dry to a firm coating. The acetone coating when dry is only slightly adhesive, while the benzine coating is sticky.

The method of application to the hands and forearms is that of simple washing, as with alcohol, care being taken to fill in around and beneath the nails. The hands must then be kept exposed to the air with the fingers separated until thoroughly dry. They may then be washed in alcohol, bichloride, or any of the antiseptic solutions without interfering with the coating or affecting the skin. It wears off on the tips of the fingers if the operations be many or prolonged, when another application may be made between operations; on the remaining portion of the hands one application is sufficient for a whole morning's work.

My routine method of hand preparation is as follows: First, five to seven minutes' washing with spirits of green soap (five per cent.) and running hot water; second, three-minutes' washing with alcohol; third, after thoroughly drying I pour on the rubber solution after the method above stated, allowing it to dry without rubbing, after the surface is thoroughly covered. The coating is so thin it can only be recognized by its glazed appearance. The coating will resist soap-and-water washing to cleanse the hands between operations. It is removed by washing in benzine.

The abdomen or surface preparation is five-minutes' scrubbing with spirits of green soap (five per cent.), then washing with ether, followed by alcohol. The surface is then swabbed over thoroughly with the acetone or benzine rubber solution.

The gutta-percha solution is prepared by dissolving pure gutta-percha chips in sterile benzine or acetone. This was accomplished first for me by the chemist, E. von Hermann. These solutions do not stand boiling, as it impairs the adhesiveness and elasticity of the coating. The advantages of this method of avoiding the dangers of infection from the hands and skin of the patient are very evident. In addition to the bactericidal properties of the benzine it prevents perspiration beneath the coated surface, and also the rubbing off of epithelia from the hands and skin surface into the wound. It does not puncture, like the rubber glove, and where it wears off on the finger-tips there is no accumulated epithelium or secretion beneath. It is, moreover, impermeable and precludes the ingress of infective flora or blood to the operator's skin. After operating, the surface washes clean as readily as the surface of a rubber glove. At the end of the day's work, when the hands are washed in benzine to remove the coating, the skin is very

soft and smooth. The surgeon's hands are thus protected from all of the deleterious effects of daily operating, which is in itself a safeguard against infection. Inoculation and bacteriologic tests are being made and will be reported in detail later. The simplicity and ease of application of this method, with its practical certainty of protection, should appeal to every operator.

[We are informed by the operating-room nurse of the Cook County Hospital that the cost of this coating for each pair of hands is about five cents.—Ed.]

THE NURSE AS A MEDICAL STUDENT

By STELLA GARDNER, M.D.

Graduate Illinois Training-School

THE nurse who takes up the study and practice of medicine has certain advantages over her fellows who have not had a like experience.

The practical knowledge about the minor details of illness and its treatment, which a nurse's training gives her, is sometimes not attained in years by the physician. A doctor seldom spends twenty-four consecutive hours with one patient; very rarely does he give his entire time to one patient during the whole course of an illness. But the nurse knows how the sick man looks and acts at three o'clock in the morning as well as at noon, in convalescence as well as at the onset. She watches every phase of the case from beginning to end, through weary days and nights, and as a result has a "clinical picture" indelibly impressed upon her mind.

As a student the nurse starts out with a vocabulary the lack of which chains her less fortunate fellows to the dictionary for at least the first year of college life. When *sub sultus tendinum* is mentioned she knows it isn't a muscle in the forearm. Then she reads of rose spots in typhoid. She knows they do not look like American Beauties. It was an alumna of Smith College, not of a training-school for nurses, who gave the dose of calomel as "one to four drachms."

A nurse's surgical training develops the aseptic habit until it becomes almost an instinct. A slip in technique is almost an impossibility to her. The general practitioner who is only occasionally the surgeon rarely attains this desirable state, however perfect his theory of surgical cleanliness.

When a nurse has watched by the bedside of many cases of pneumonia, the color, the breathing, the cough, the pulse, the posture, the mental state, the whole picture, become as familiar to her as the